Application No. 10/602,515
Filed: June 24, 2003
TC Art Unit: 3744
Confirmation No.: 8865

REMARKS

Claim 1 is pending in the present application. The Examiner has rejected claim 1 under 35 U.S.C. § 103. Applicant requests that the rejections by the Examiner be reconsidered and withdrawn based on the remarks provided herewith.

Claim Rejections 35 U.S.C. § 103

The Examiner has rejected claim 1 under 35 U.S.C. § 103 as obvious based on U.S. Patent No. 4,824,454 to Kondo et al. in view of U.S. Patent No. 4,592,205 to Brodbeck et al. and U.S. Patent No. 5,327,729 to Yanai et al. The Examiner has suggested that Kondo et al. in combination with Brodbeck et al. and Yanai et al. disclose the preserving system of claim 1. The Examiner has also contended that Kondo et al. teach a pipe connecting between the lower parts of a condensing and preservation chambers. To support this contention, the Examiner has adopted a view that the pipe disclosed by Kondo et al. is positioned in the lower part of the preservation chamber because it physically extends from the upper end of the chamber into the liquid cryogen.

In contrast to the view adopted by the Examiner, Applicant submits that a pipe extending through the upper end of a chamber and into a liquid within the chamber is completely different than having the pipe connect with the lower part of the chamber such as recited by claim 1. In particular, claim 1 requires that the pipe connect between the lower parts of the condensing and preservation chambers. This requirement cannot be satisfied by the teachings of Kondo et al. Claim 1 should also not be interpreted to mean that the pipe could physically connect to the upper end of the

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chamber so long as it extends into the chamber as contended by the Examiner.

Applicant also indicates that a pipe that physically connects to the upper end of a preservation chamber and then extends into the liquid cryogen in the chamber reduces the cooling capacity of a system. This cooling capacity reduction is due to accelerated cryogen vaporization caused by the liquid cryogen being perturbed during operation. The liquid is perturbed because the pipe that extends into the chamber contacts and disrupts the surface of the cryogen. The liquid is also perturbed when its level falls below the extending pipe such that supplied cryogen then splashes onto its surface. The claimed system overcomes a reduction in cooling capacity that may result from the position of the pipe in Kondo et al. by requiring that the pipe connect between the lower parts of the condensing and preservation chambers.

The patent laws maintain that a reference must disclose each limitation of the claims under consideration in order to establish obviousness prima facie. Applicant submits that Kondo et al. do not disclose a pipe connected between the lower parts of a condensing and preservation chambers as required by claim 1. Applicant also underscores that this requirement is fundamentally different from a pipe that physically connects to the upper end of a chamber and then extends into the liquid cryogen in the chamber. Furthermore, neither Brodbeck et al. nor Yanai et al. can be combined with Kondo et al. so as to teach the claimed system. Thus, Applicant submits that the rejections by the Examiner under 35 U.S.C. § 103 should be withdrawn.

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CONCLUSION

In view of the remarks presented herein, reconsideration and withdrawal of the rejections by the Examiner and allowance of the application with the pending claim are respectfully requested.

The Examiner is also encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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